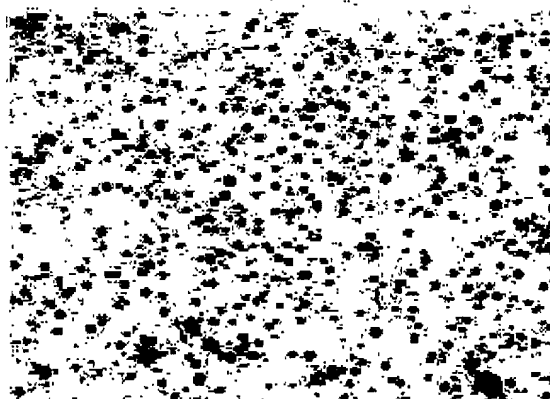


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FIG. 1A



FIG. 1B



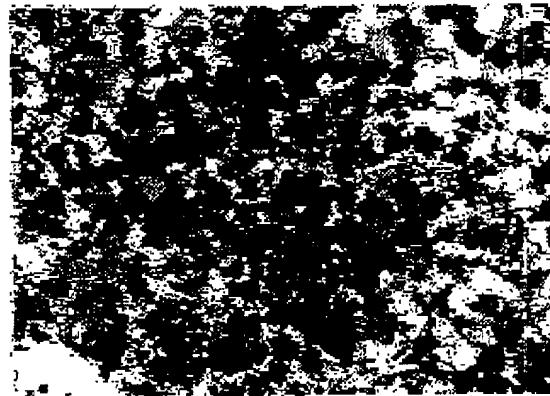
20040429 459420 F

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FIG. 2A



FIG. 2B



201250-45942007

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FIG. 3A



FIG. 3B



FIG. 3C

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FIG. 4A

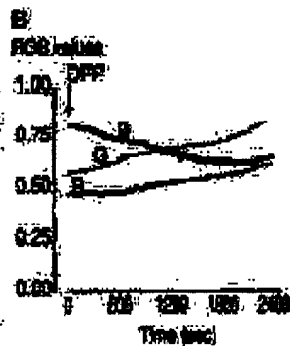


FIG. 4B



FIG. 4C

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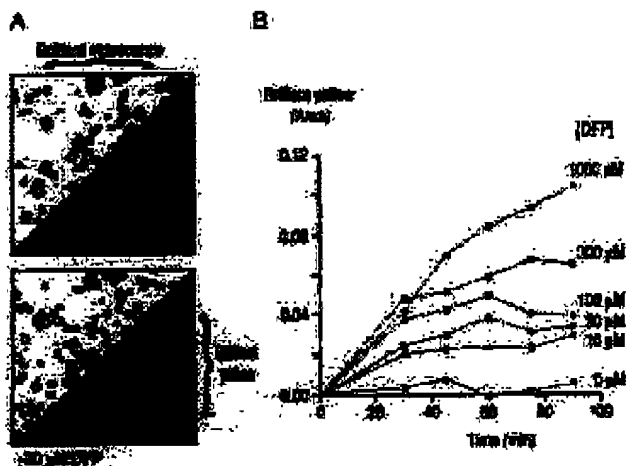


FIG. 5A

FIG. 5B

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FIG. 6A

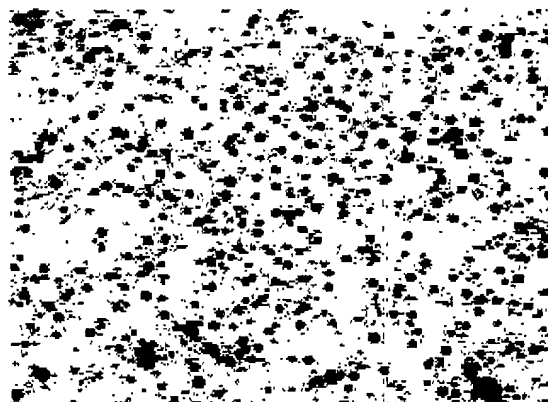


FIG. 6B

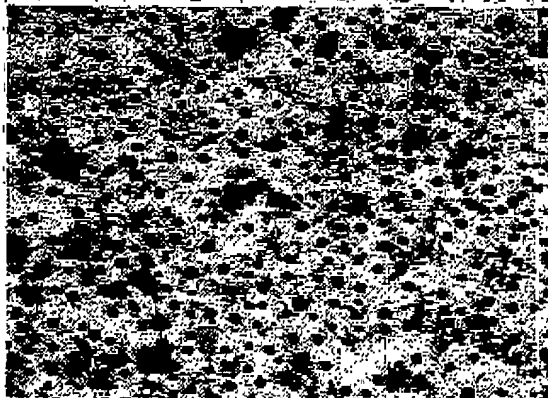


FIG. 6C



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Before adding bacteria After adding bacteria

Strain 1

FIG. 7A

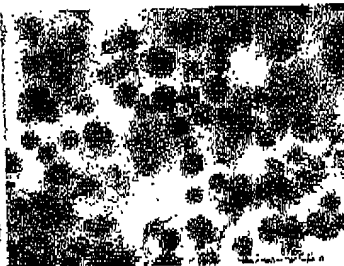
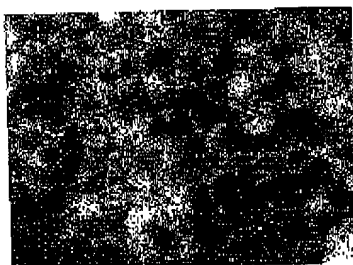


FIG. 7B

Strain 2

FIG. 8A

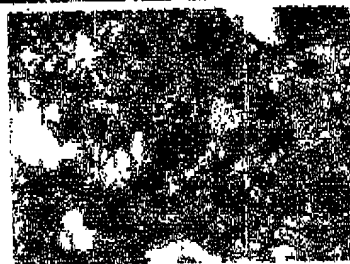


FIG. 8B

Strain 3

FIG. 9A

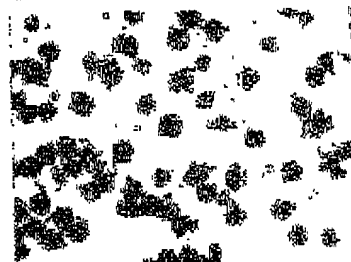


FIG. 9B

Strain 4

FIG. 10A

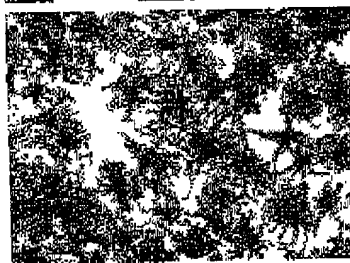


FIG. 10B

Strain 5

FIG. 11A

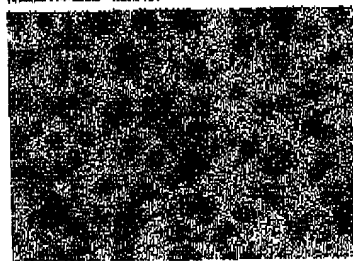


FIG. 11B

10024654-063402

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FIG. 12A

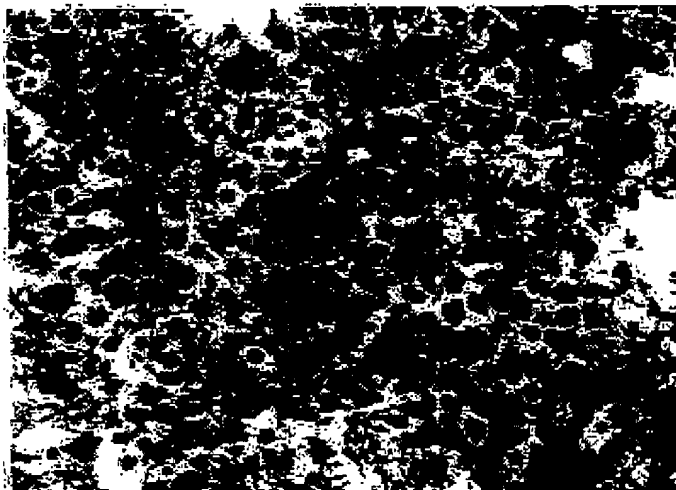
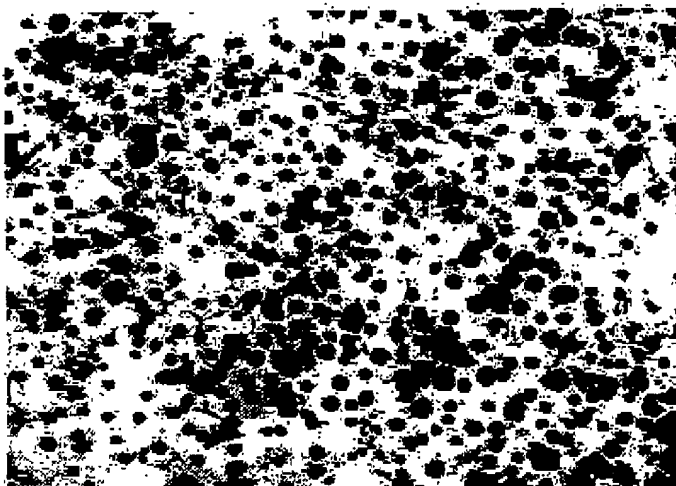




















FIG. 12B



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FIG. 13

	Agent	Chemical Type	Effective dose	Direct Effects	Challenge A (nonopiatephrine)	Challenge B (forskolin)
Control	None	-	-			
I	DFP Mipaflox Paroxan	phosphorofluoridate phosphorofluoridate phosphate	ppm			
II	PMSE EPN	malonylthioester phosphorothioate	ppm			
III	Nevinphos Dichloron	phosphite phosphate	ppm			
IV	Tidchloron	phosphonate	ppm			
V	Chlorpyrifos Fenitrothion Mephos Carbaryl Methomyl 2,5-Hexanedione Acrylamide	phosphorothioate phosphorothioate phosphorothioate carbamate carbamate chloroacetate amide	ND			

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FIG. 14A

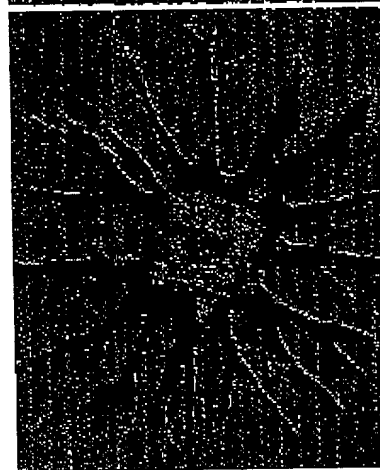


FIG. 14B

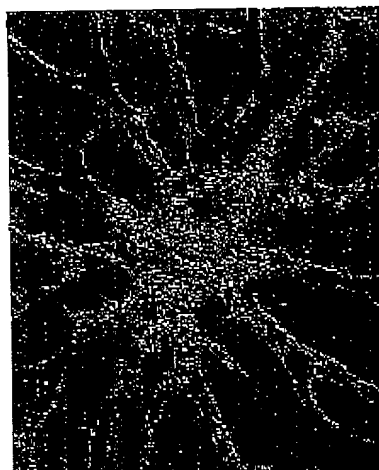


FIG. 14C

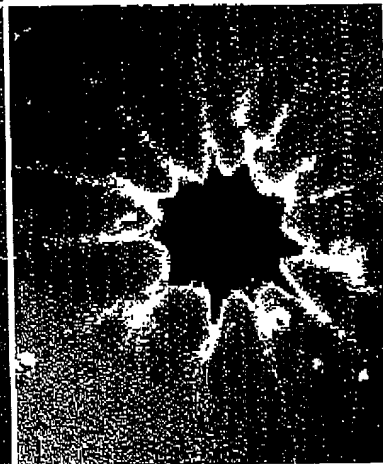
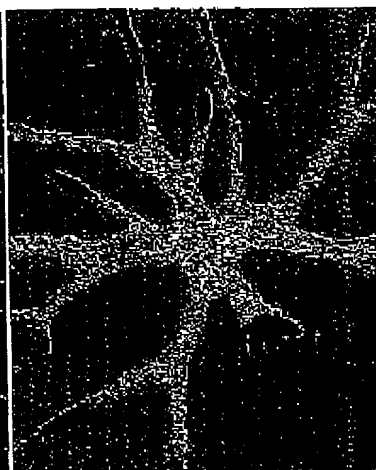


FIG. 14D



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FIG. 15A

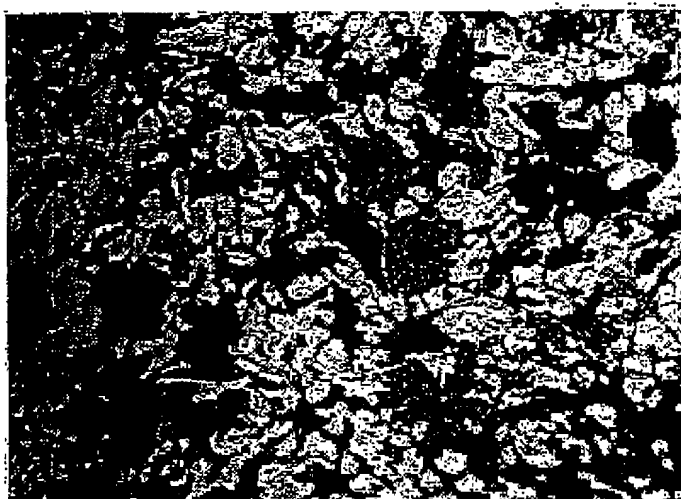
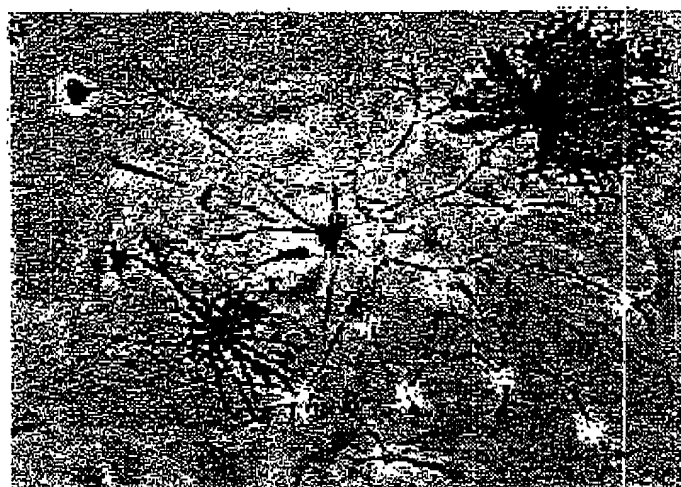


FIG. 15B



100 microns

FIG. 16A



FIG. 16B



FIG. 16C

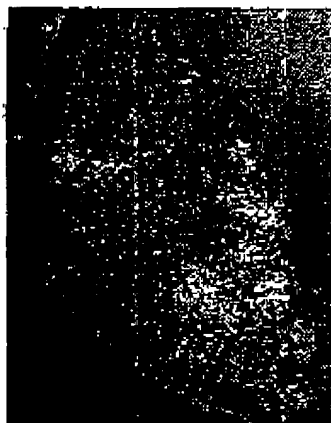


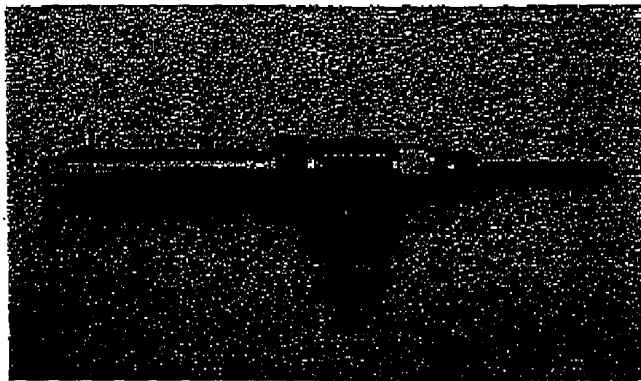
FIG. 17



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Hardware construction for the encapsulation of SOS sensor cells.

FIG. 18A



Extruder
hardware
(assembled)

FIG. 18B

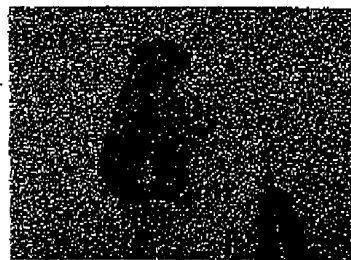


FIG. 18C

Air-flow
adjustment
mechanism

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Before

After 10nM
 Norepinephrine

FIG. 19A
 (+) Ca^{2+}

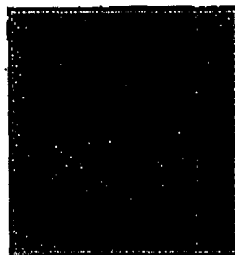


FIG. 20A
 (-) Ca^{2+}

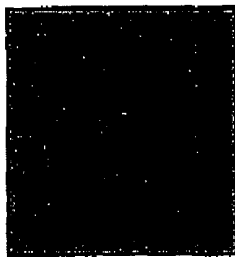
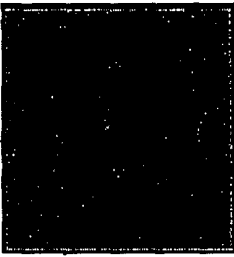


FIG. 19B



FIG. 20B



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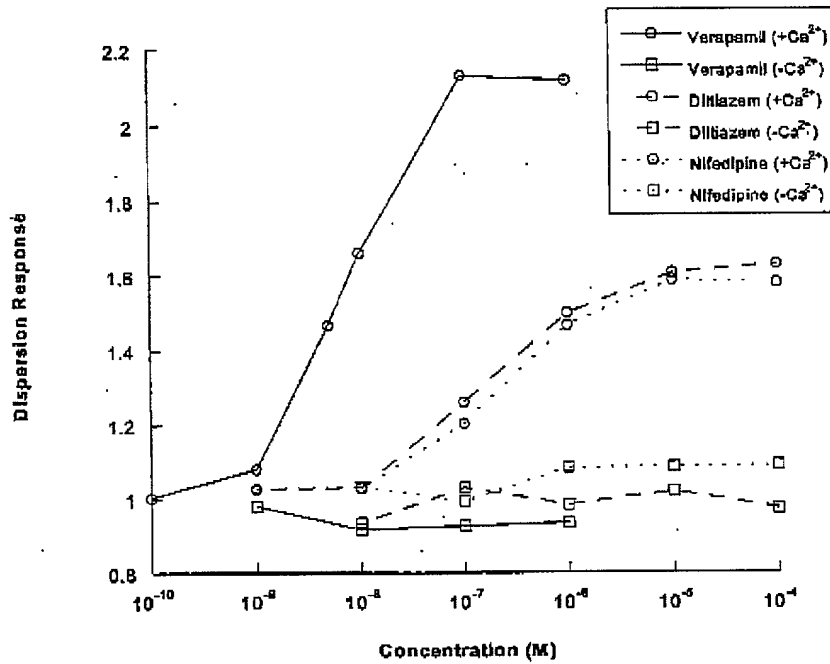


FIG. 21

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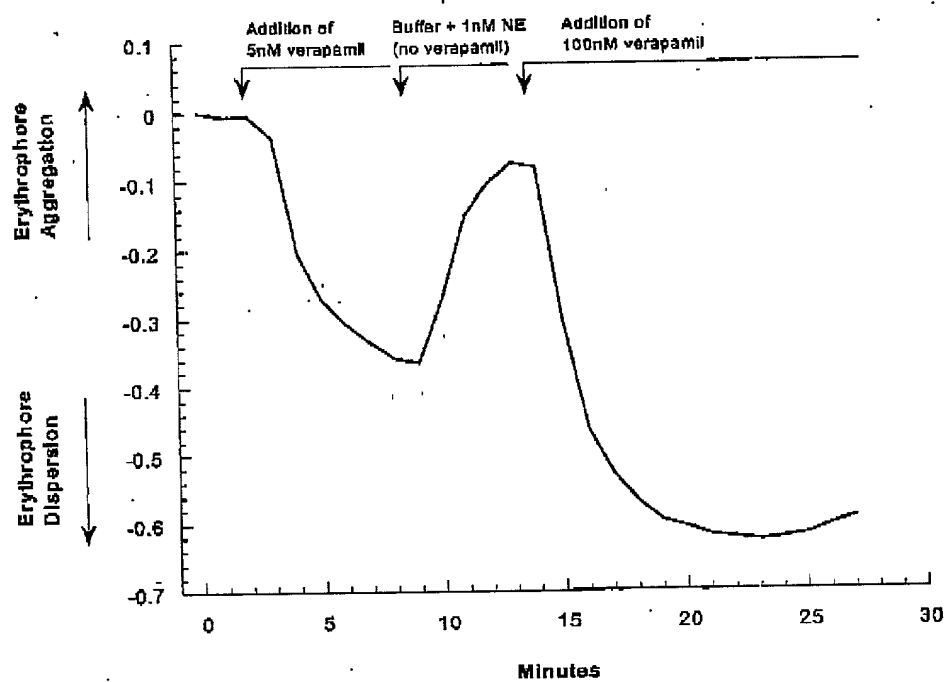


FIG. 22

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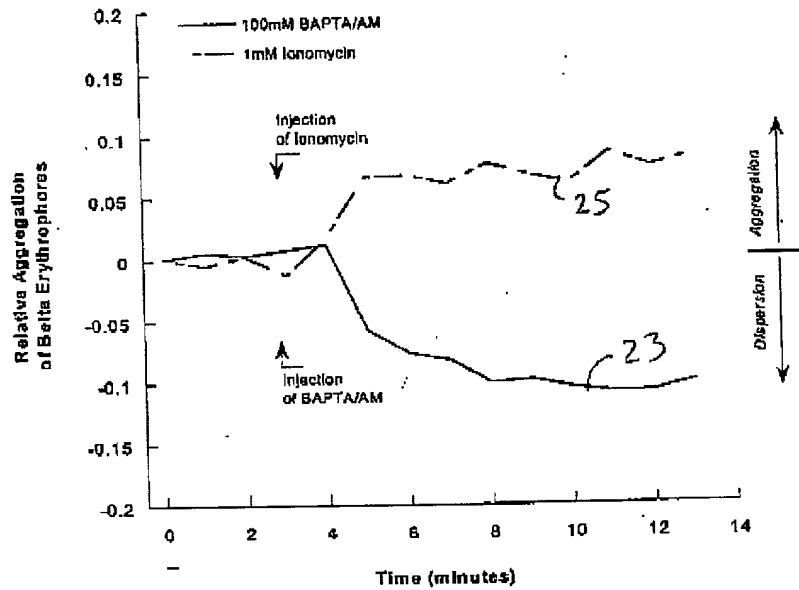


FIG. 23

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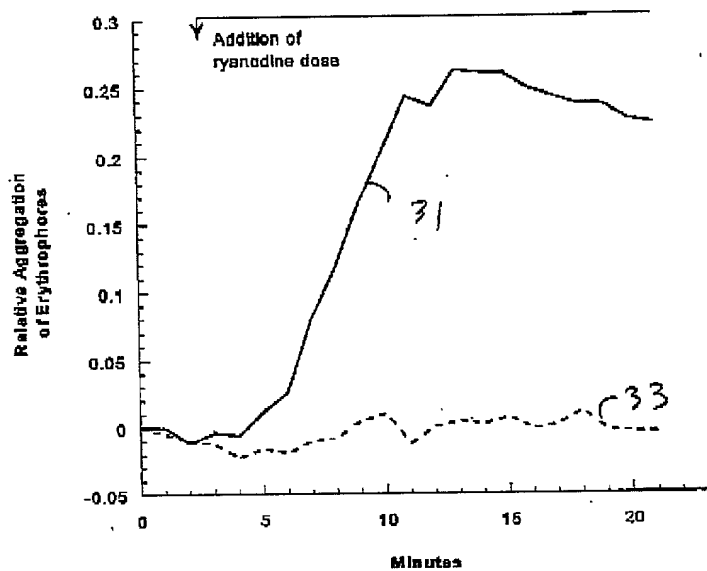


FIG. 24

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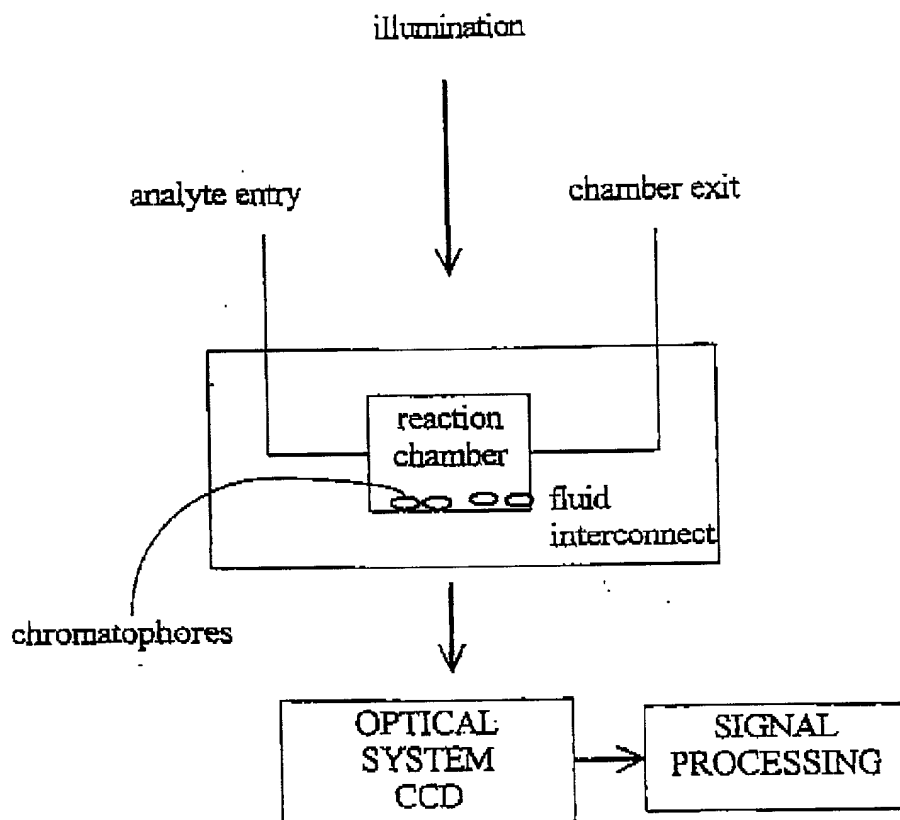


FIG. 25

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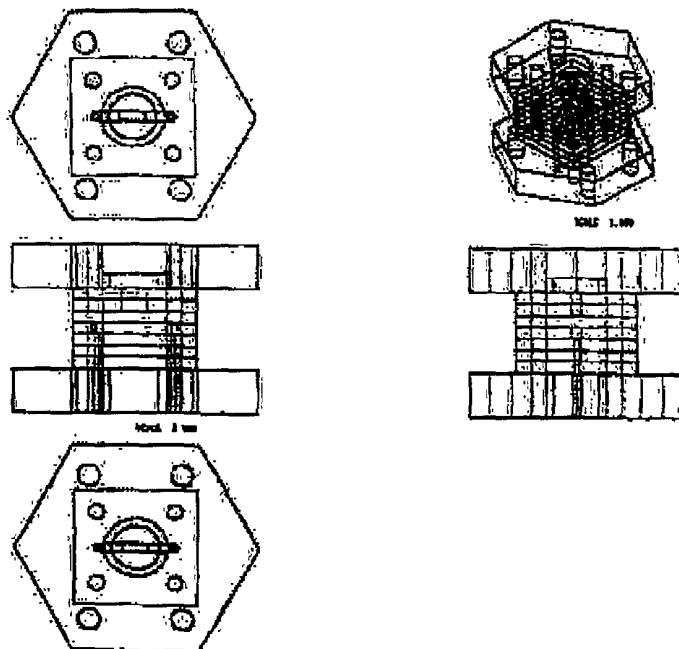


FIG. 26A

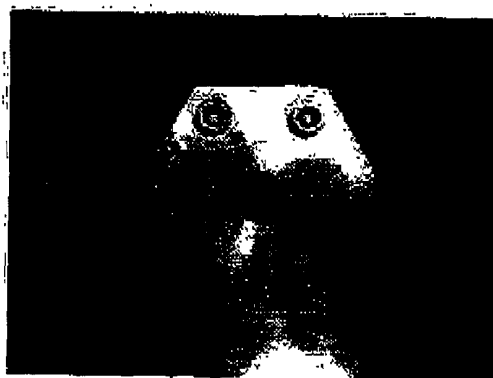


FIG. 26B

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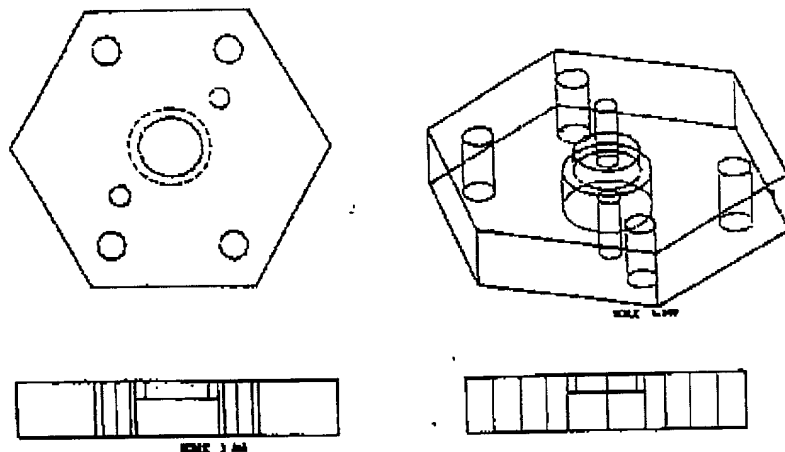


FIG. 27

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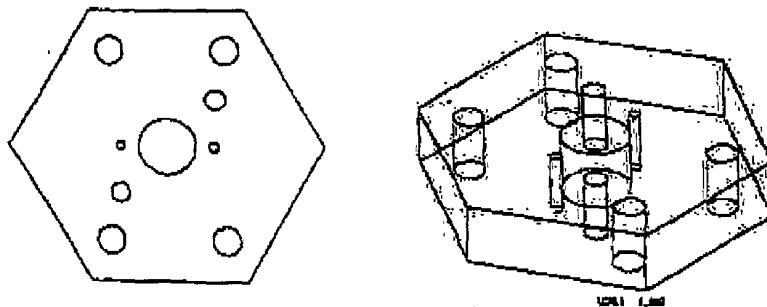
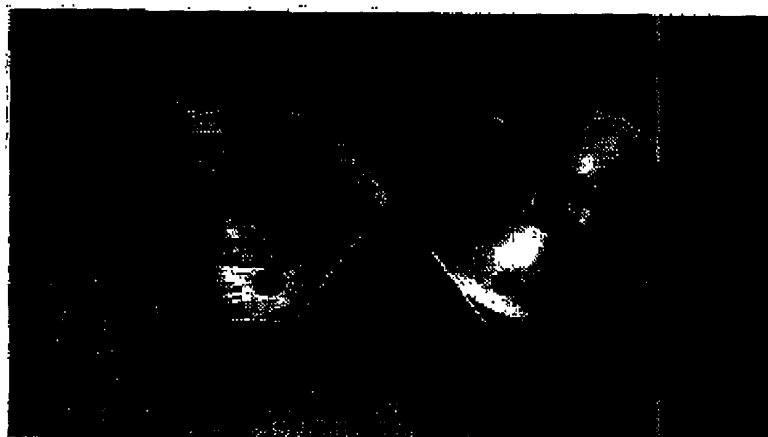


FIG. 28A



FIG. 28B



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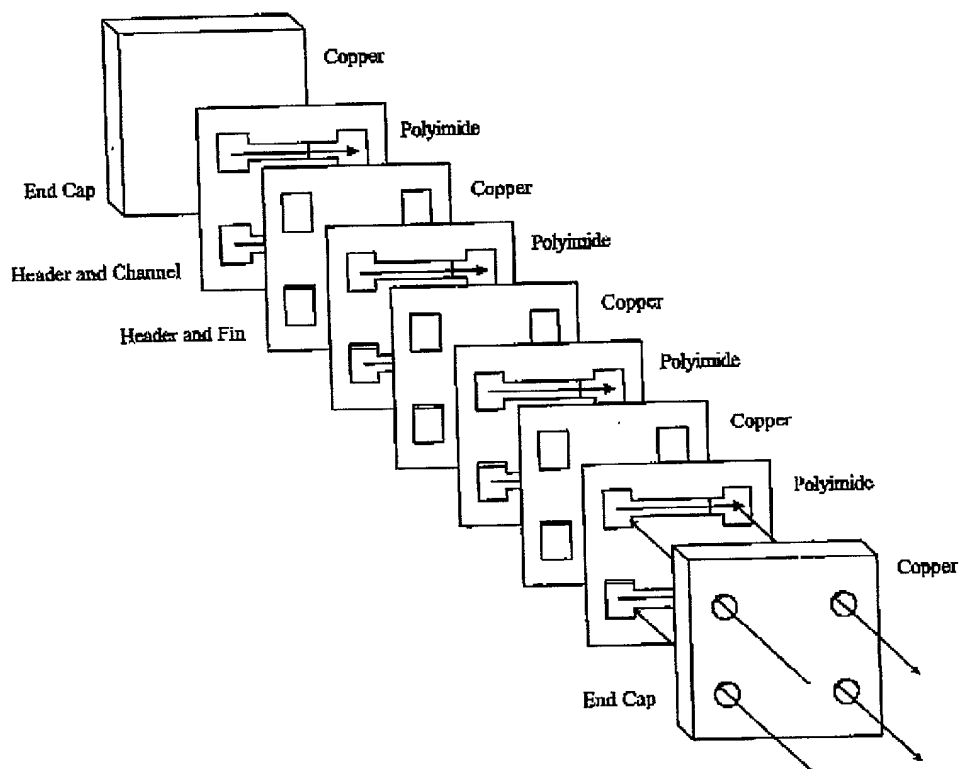


FIG. 29

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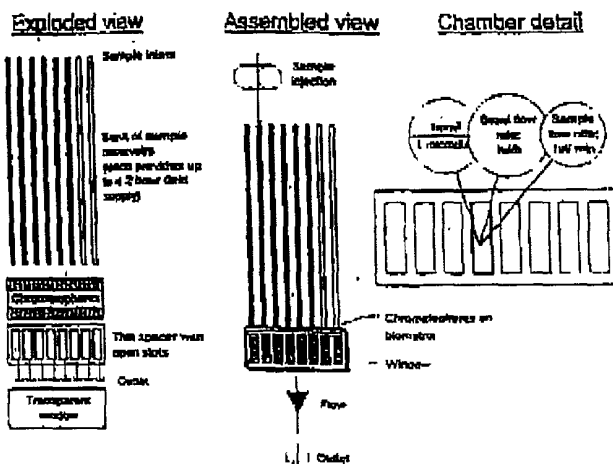


FIG. 30A

FIG. 30B

FIG. 30C

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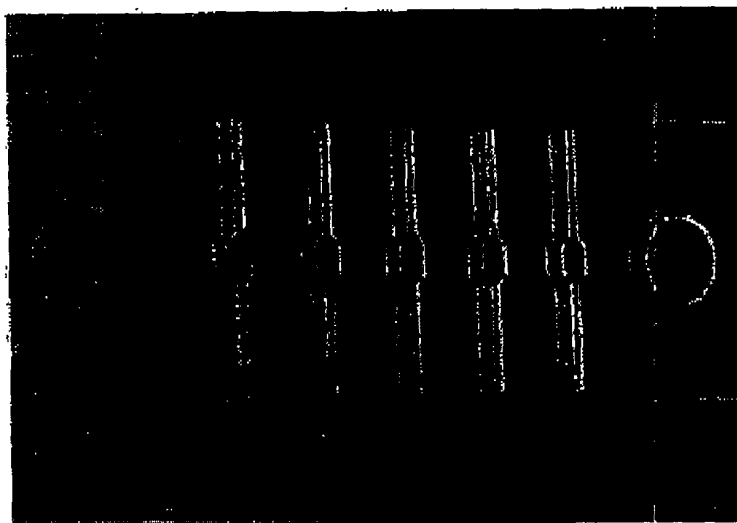


FIG. 31

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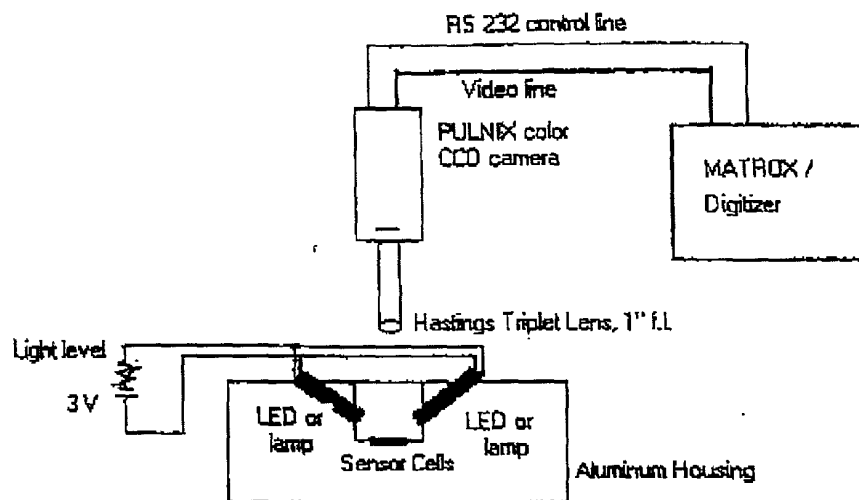


FIG. 32

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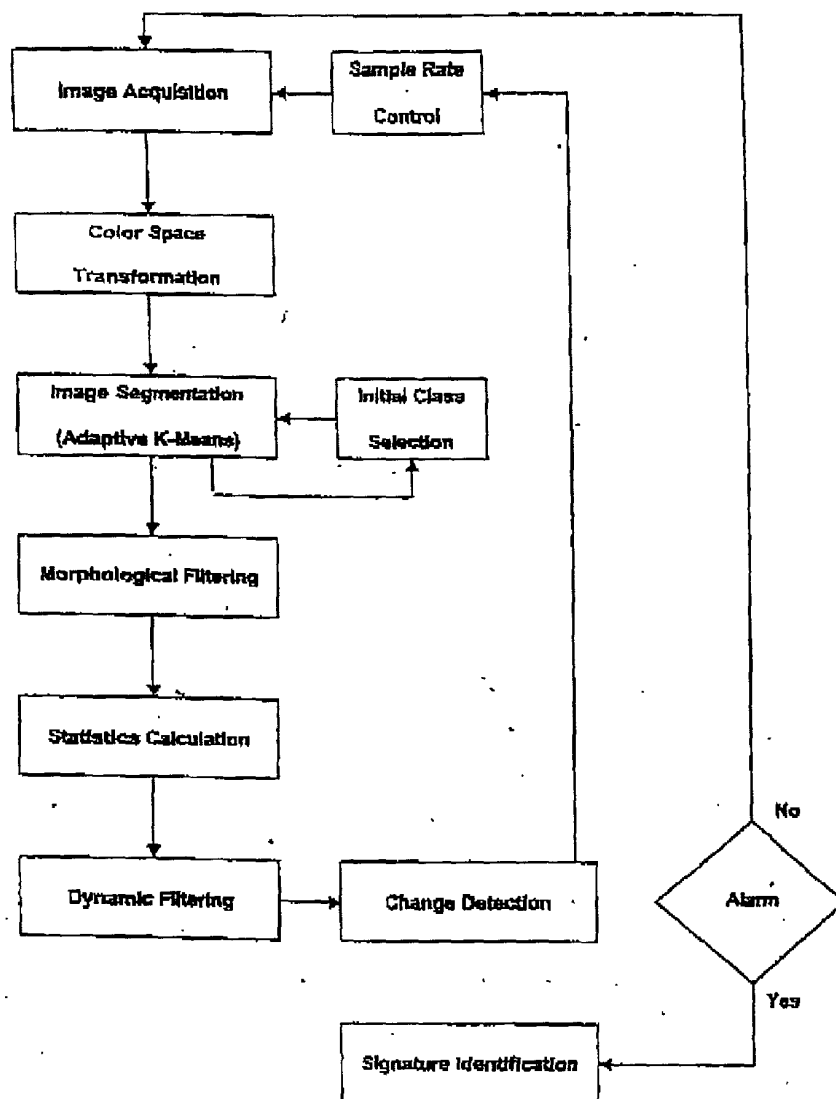


FIG. 33

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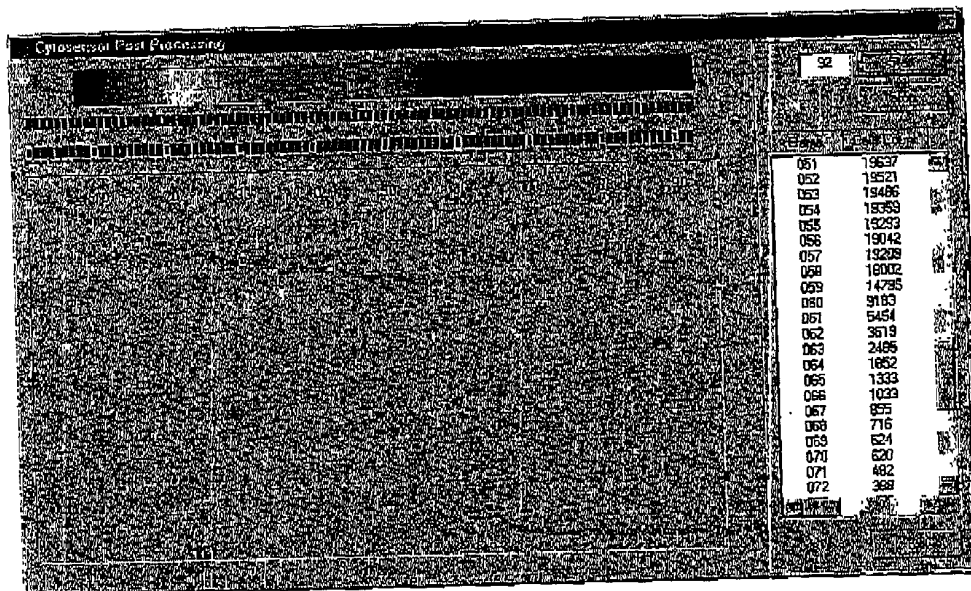


FIG. 34

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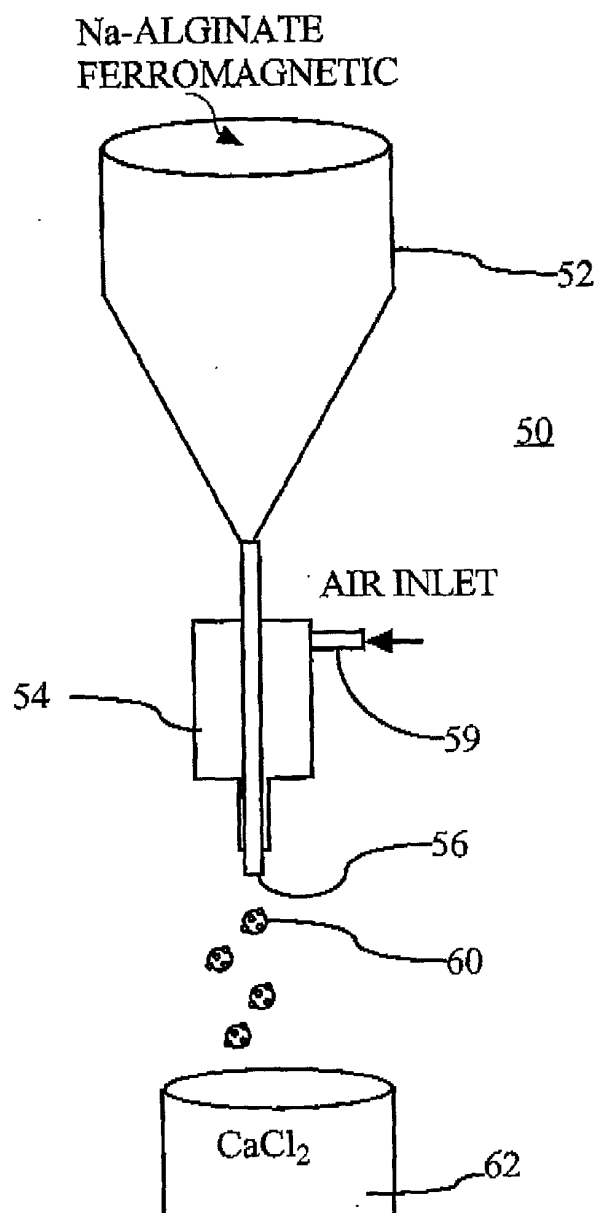


FIG. 35

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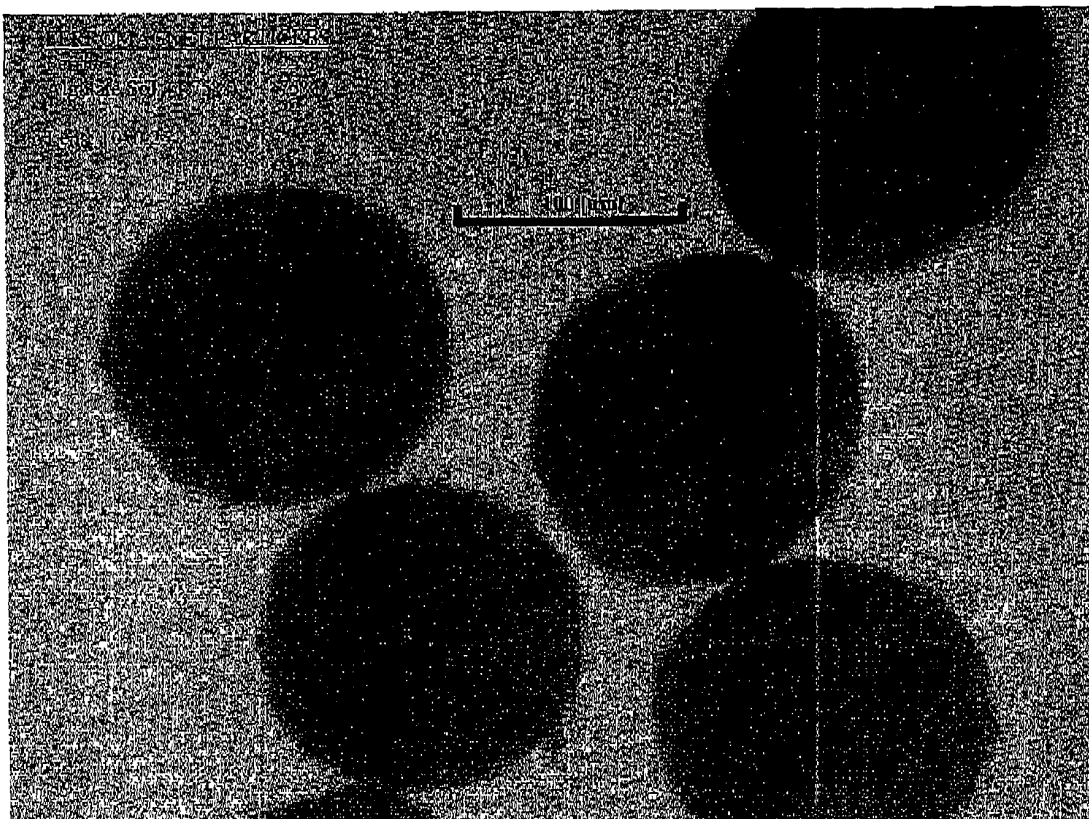


FIG. 36

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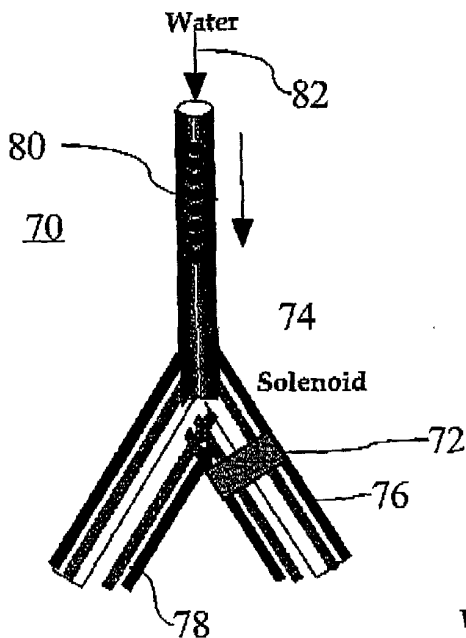


FIG. 37A

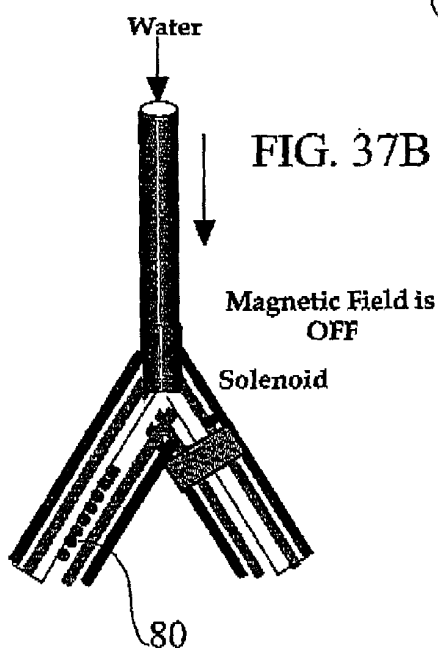


FIG. 37B

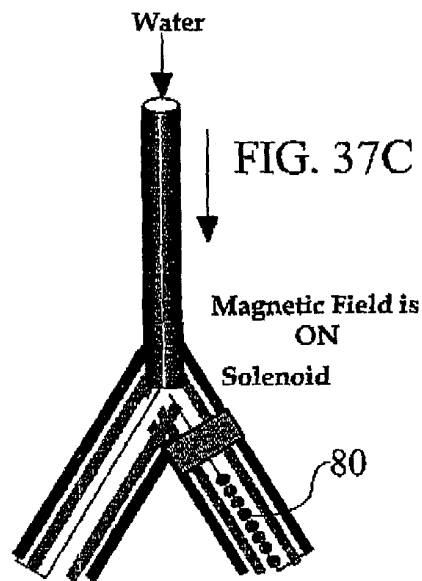


FIG. 37C

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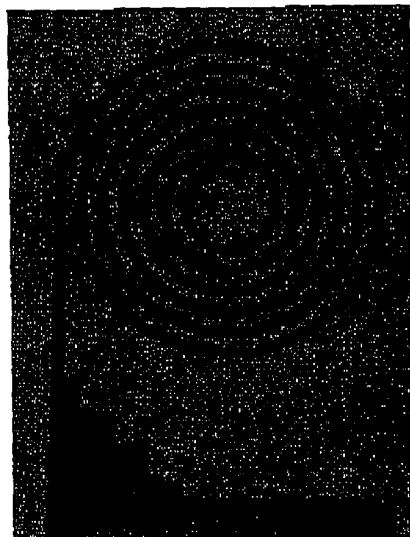


FIG. 38A

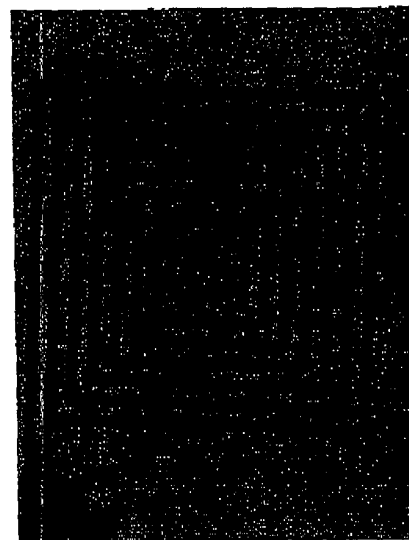


FIG. 38B

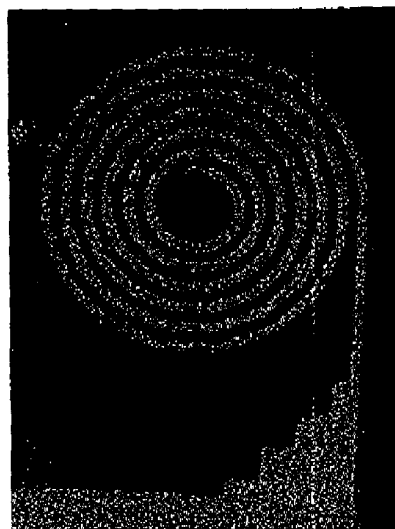


FIG. 39

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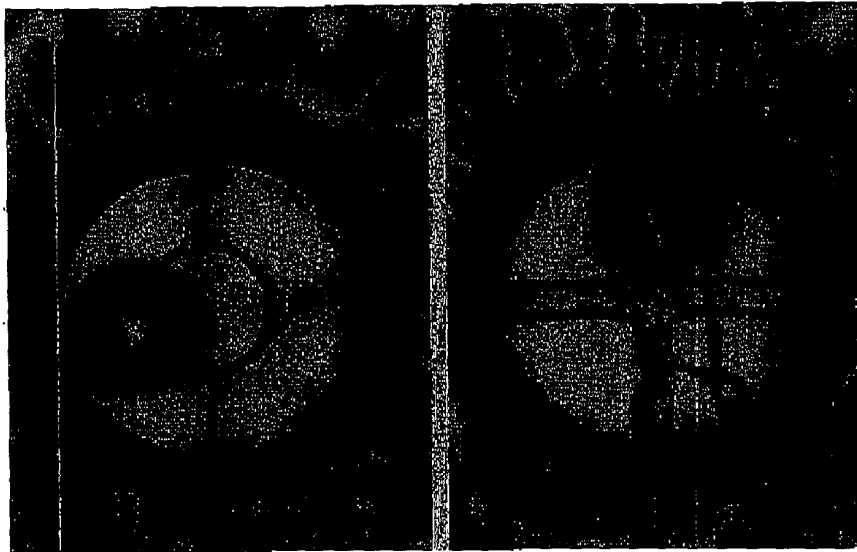


FIG. 40A

FIG. 40B

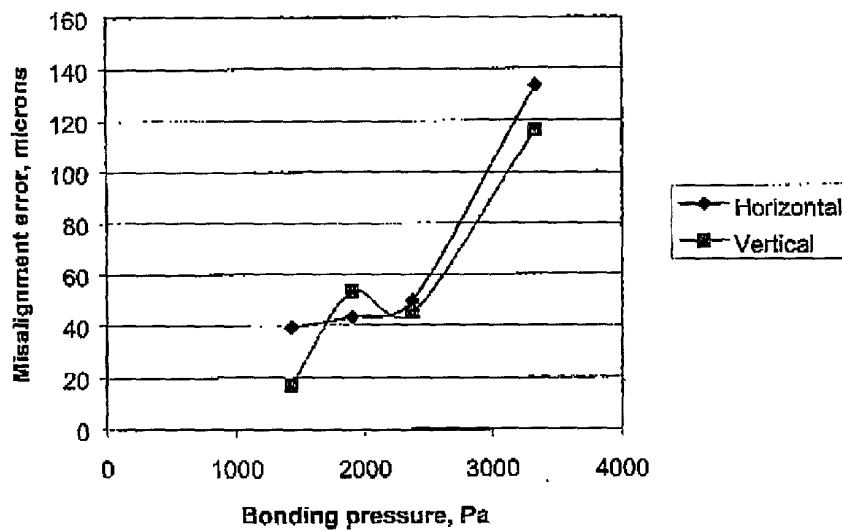


FIG. 41

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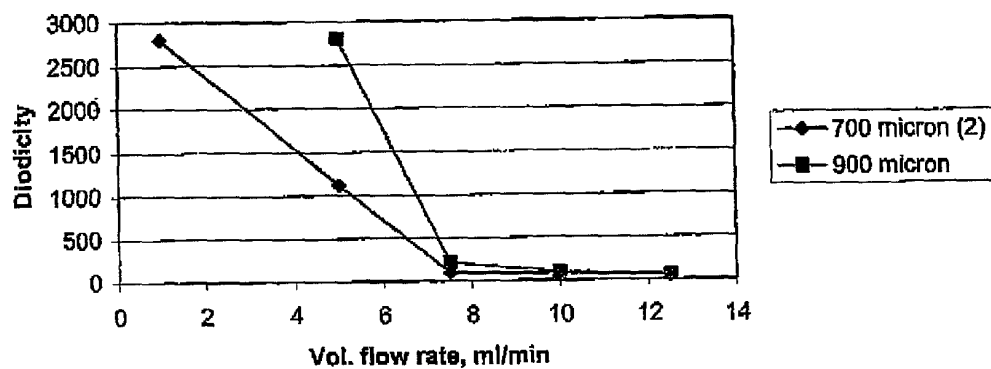


FIG. 42

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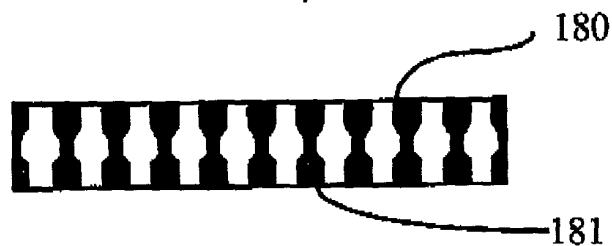


FIG. 43A

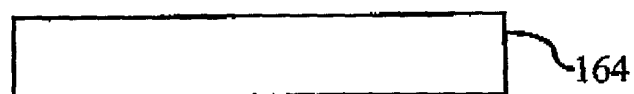


FIG. 43B

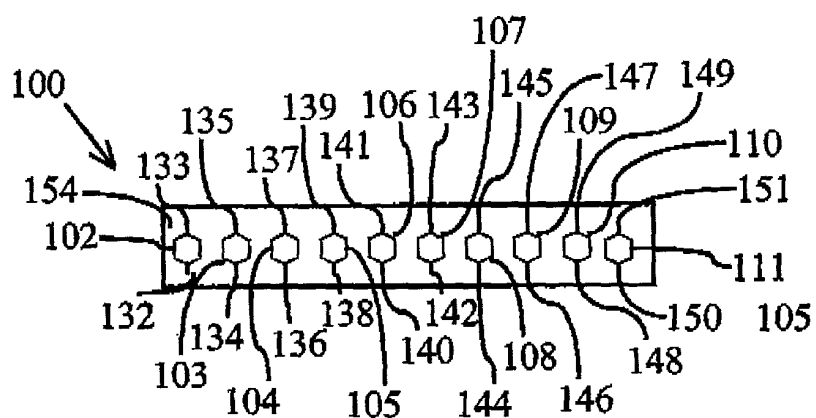


FIG. 43C

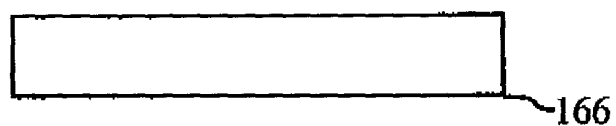


FIG. 43D

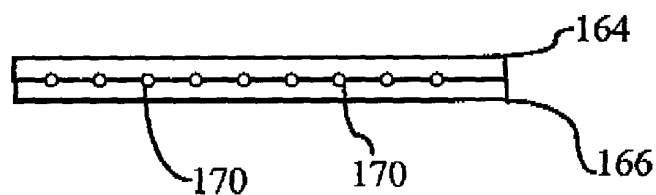


FIG. 43E